

WHAT IS CLAIMED IS:

sub a<sup>2</sup>

1. An imaging apparatus comprising:

a taking lens for forming an image of a subject on an imaging surface;

5 an imaging device which is constructed by arranging photoelectric conversion elements in a two-dimensional array and dividing them into photoelectric conversion element groups composed of combinations of lines spaced at specific intervals, and which stores  
10 the charges corresponding to the image of the subject formed by said taking lens on the imaging surface;

control means for controlling the charge storage start timing for said imaging device in such a manner that the photoelectric conversion elements belonging to  
15 the same photoelectric conversion element group in said imaging device start to store charges with the same timing and the photoelectric conversion elements belonging to another photoelectric conversion element group start to store charges with different timing; and

20 driving means for driving said taking lens along the optical axis on the basis of the image signal read from each of the photoelectric conversion element groups in said imaging device.

25 2. The imaging apparatus according to claim 1, wherein said driving means drives said taking lens to specific positions in synchronization with the charge storage start timing for each of the photoelectric

conversion element groups in said imaging device.

3. The imaging apparatus according to claim 1,  
wherein said driving means drives not only said  
taking lens to specific positions in synchronization  
5 with the charge storage start timing for each of the  
photoelectric conversion element groups in said imaging  
device but also said taking lens to an in-focus  
position on the basis of the result of comparing the  
high-frequency components of the image signals read  
10 from each of said photoelectric conversion element  
groups.

4. The imaging apparatus according to claim 3,  
wherein said driving means sets any one of said  
specific positions as said in-focus position and  
15 driving said taking lens to the in-focus position.

5. The imaging apparatus according to claim 1,  
wherein said imaging device includes said photoelectric  
conversion elements, a vertical transfer section for  
transferring the charges stored in said photoelectric  
20 conversion elements vertically, a horizontal transfer  
section for transferring the charges from the vertical  
transfer section horizontally, and transfer gates  
provided between said photoelectric conversion elements  
and said vertical transfer section in such a manner  
25 that they correspond to the photoelectric conversion  
elements on a one-to-one basis to transfer the charges  
stored in said photoelectric conversion elements to

said vertical transfer section, and

5       said transfer gates transfer the charges stored in  
said photoelectric conversion elements to said vertical  
transfer section, when transfer pulses are applied to  
the transfer gates at specific intervals of time over  
a specific time beginning at the charge storage start  
of said photoelectric conversion elements.

6. The imaging apparatus according to claim 5,  
further comprising means for changing, according to the  
10       brightness of the subject, the period during which said  
transfer pulses are applied.

7. An imaging apparatus control method  
comprising:

15       the step of causing a taking lens to form an image  
of a subject on an imaging surface;

20       the step of storing the charges corresponding to  
the image of the subject formed by said taking lens  
on the imaging surface in such a manner that, in  
an imaging device which is constructed by arranging  
photoelectric conversion elements in a two-dimensional  
array and dividing them into photoelectric conversion  
element groups, the photoelectric conversion elements  
belonging to the same group start to store charges with  
the same timing and the photoelectric conversion  
25       elements belonging to another group start to store  
charges with different timing; and

the step of driving said taking lens along the

optical axis on the basis of the image signal read from each of said photoelectric conversion element groups.

8. The imaging apparatus control method according to claim 7, wherein said driving step drives said  
5 taking lens to specific positions in synchronization with the charge storage start timing for each of said photoelectric conversion element groups.

9. The imaging apparatus control method according to claim 7, wherein said driving step drives not  
10 only said taking lens to specific positions in synchronization with the charge storage start timing for each of said photoelectric conversion element groups but also said taking lens to an in-focus position on the basis of the result of comparing the  
15 high-frequency components of the image signals read from each of said photoelectric conversion element groups after the storage.

10. The imaging apparatus control method according to claim 9, wherein, in said driving step, said  
20 in-focus position is any one of said specific positions.

11. The imaging apparatus control method according to claim 7, wherein the step of storing the charges corresponding to the image of the subject formed by  
25 said taking lens on the imaging surface includes the step of storing charges in said photoelectric conversion elements,

the step of causing transfer gates to transfer  
the charges stored in said photoelectric conversion  
elements to a vertical transfer section, when transfer  
pulses are applied to the transfer gates at specific  
5 intervals of time over a specific time beginning at the  
charge storage start of said photoelectric conversion  
elements,

the step of causing a vertical transfer section  
to transfer the transferred charges vertically to  
10 a horizontal transfer section, and

the step of transferring the charges from the  
vertical transfer section horizontally.

12. The imaging apparatus control method according  
to claim 11, wherein the step of transferring charges  
15 to said vertical transfer section changes, according to  
the brightness of the subject, said specific time  
during which said transfer pulses are applied.

ABSTRACT OF THE DISCLOSURE

In an electronic still camera where the signal charges accumulated corresponding to the image of a subject formed by an imaging optical system 1 are read from a CCD and displayed on an LCD via an imaging circuit, an A/D converter, a buffer memory, and a D/A converter, or recorded on a recording memory via a compression/expansion circuit, the photoelectric conversion elements of the CCD are divided into groups composed of combinations of lines spaced at specific intervals, charge accumulation start timing is controlled in such a manner that the elements belonging to the same group start to accumulate charges with the same timing and the elements belonging to another group start to accumulate charges with different timing, an AF processing section 14 finds an in-focus position from the image signal read from each of the photoelectric conversion element groups in the CCD 5, and on the basis of the in-focus position, a focus lens group 3 is driven.